



## PARAHO DEVELOPMENT CORPORATION

November 22, 1982

Mr. D. W. Hedberg  
Division of Oil, Gas, and Mining  
4241 State Office Building  
Salt Lake City, UT 84114

Dear Mr. Hedberg:

Paraho requests that the Utah Division of Oil, Gas, and Mining, in considering the application for the Permit to Commence Mining Operations, submitted to the Division on March 1, 1982, as amended on October 27, 1982, include in their reclamation to the Board, a proposal that bonding for reclamation be considered on a phased basis.

As requested by Pamela Grubaugh-Littig, Paraho has tabulated data for four phases, which include: Site Development; Construction and Operation of Module (Single Retort) Plant; Construction of the Full (Three Retort) Plant; Full Operations. Data for these four phases are tabulated for acreage disturbed. A second table lists the estimated costs associated with mine reclamation (shafts, portals), site reclamation (foundations, paved surfaces), post-reclamation monitoring, and soil placement/vegetation. Site development costs are based upon the anticipated commencement of activities during the second quarter of 1983.

Paraho further requests that the Board approve the application subject to the condition that Paraho supplies acceptable surety to the Division prior to starting field activities of each phase. We feel that the enclosed information provide sufficient detail for the first phase (Site Development). Paraho proposes to provide the Division details of the schedule and anticipated reclamation costs of those later phases approximately 90 days prior to the commencement of each phase. Suitable assurance of the agreed reclamation costs for each phase would be provided by Paraho to the Division before starting field activities in that particular phase.

We will be glad to meet with the Division to discuss this proposed approach towards meeting reclamation costs. Should you have any questions, please call me.

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**DIVISION OF  
OIL, GAS & MINING**

RH:ks

Sincerely,

R. N. Heistand  
Vice President,  
Environmental Affairs

ACREAGES DISTURBED

(ESTIMATES)

<u>COMPONENT</u>	<u>Construction 1983</u>	<u>Construction One Retort</u>	<u>Construction Full Plant</u>	<u>Full Operation</u>
Off-Site Access Roads	127	127	127	51
Product Pipeline	0	42	42	42
Power Line	22	22	22	22
Water Line	40	22	87	72
Mining Surface Facilities	12	23	23	15
Shale Crushing and Handling	5	10	20	10
Retorting and Oil Recovery Facilities	6	13	40	30
Auxiliary Facilities	10	20	40	25
Raw Water and Wastewater Treatment Facilities	7	15	30	20
Other Storage (fuel, oil, explosives, bldg. Material, etc.)	20	40	80	70
Raw Shale Fines Storage	0	25	100	70
Collection/Evaporation Ponds	0	10	20	15
On-Site Paved Areas	23	55	110	45
Retorted Shale Disposal	0	93	370	340
Construction Camp <sup>1</sup>	50	100	100	0
TOTALS	322	617	1,211	827
RECLAMATION @ \$4,800/acre=\$1,545,600		2,961,600	5,812,800	3,969,620

(1) Portion of the construction camp will be situated where the retorted shale disposal pile will ultimately be located. The construction camp will be decommissioned at the end of the construction period.

MINE AND SITE RECLAMATION COSTS<sup>(1)</sup>

(\$000)

	Site Development 1983	Single Retort Const & Oper 1984-87	Full Plant Const. 1988-89	Full Plant Operation 1990-94
Mine Closure <sup>(2)</sup>	25	65	87	114
Foundation/Paving Recl. <sup>(3)</sup>	875	1,749	3,842	8,369
Monitoring <sup>(4)</sup>	40	60	86	190
Soil/Revegetation <sup>(5)</sup>	<u>1,546</u>	<u>2,962</u>	<u>5,813</u>	<u>3,970</u>
	2,486	4,836	9,828	12,643

(1) 1982 dollars, no escalation, fees, contingency

(2) Task 17, see response L.K. Limbach to D.W. Hedberg, 10/27/82

(3) 20% of total estimated building removal costs (see above ref.)

(4) Task 17 (see above ref.)

(5) \$4,600.00/acre disturbed, Task 17 (see above ref.)